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CLAIMS

What is claimed is:

12. A movable boundary detection device, comprising:

- (a) a receiver operable to receive a positioning signal including actual position coordinates of a movable device in a first space;
- (b) a memory module including a memory to store predefined position coordinates for defining a boundary between a second space and the first space;
- (c) a processor module connected to the receiver and the memory module and operable to compare the actual position coordinates to the predefined position coordinates; and
- (d) an indicator connected to the processor module and operable to indicate when the actual position coordinates are a predetermined distance from the boundary between the first space and the second space.

13. The boundary detection device of claim 12, wherein the positioning signal is a global positioning system signal.

14. The boundary detection device of claim 12, wherein the receiver is a radio frequency receiver.

15. The boundary detection device of claim 12, further including high voltage circuitry operable to deliver an electrical shock to a pet when the actual position coordinates are the predetermined distance from the boundary between the first space and the second space.

16. The boundary detection device of claim 12, further including an audible alarm operable to produce a sound when the actual position coordinates are the predetermined distance from the boundary between the first

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space and the second space.

5 17. The boundary detection device of claim 12, further including a transmitter operable to transmit an alarm signal when actual position coordinates are the predetermined distance from boundary between the first space and the second space.

10 18. The boundary detection device of claim 12, wherein the memory module is operable to store a set of actual position coordinates in the memory as the operator moves about a boundary for defining the boundary between the first space and the second space.

15 19. The boundary detection device of claim 12, wherein the device includes a housing for enclosing the receiver, the memory module, the processor module, and the indicator in the movable device for facilitating movement of the movable device.

20 20. A boundary detection system, comprising:
20 (a) a boundary detection device, comprising:
(i) a first receiver operable to receive a positioning signal including actual position coordinates of a movable device in a first space;
(ii) a memory module including a memory to store predefined position coordinates for defining boundaries of a second space;
25 (iii) a processor module connected to the first receiver and the memory module and operable to compare the actual position coordinates to the predefined position coordinates; and
(iv) a transmitter connected to the processor module and operable to transmit an alarm signal when the actual position coordinates are a predetermined distance from the
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boundary between the first space and the second space;

(b) a base station, comprising:

(i) a second receiver operable to receive the alarm signal from the transmitter; and

5 (ii) an indicator connected to the second receiver and operable to indicate the receipt of the alarm signal.

21. The boundary detection system of claim 20, wherein indicator indicates the receipt of an alarm signal to an operator.

10 22. A method for indicating a position of a movable device with respect to a geographical area, the method comprising:

(a) defining a boundary of a first space and a second space with a set of predefined position coordinates;

15 (b) receiving a positioning signal indicating actual position coordinates of a movable device in the second space;

(c) comparing the actual position coordinates to the predefined position coordinates; and

20 (d) indicating when the actual position coordinates are a predetermined distance from the boundary between the first space and the second space.

23. The method of claim 22, wherein the positioning signal is a global positioning system signal.

25 24. The method of claim 22, further including delivering an electrical shock to a pet when the actual position coordinates are the predetermined distance from the boundary between the first space and the second space.

30 25. The method of claim 22, further including producing a sound when actual position coordinates of the movable device are the predetermined distance from the boundary between the first space and the second

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space.

5 26. The method of claim 22, further including transmitting an alarm signal when actual position coordinates of the movable device are the predetermined distance from the boundary between the first space and the second space.

10 27. The method of claim 22, further including storing a set of actual position coordinates into a memory as the operator moves about a boundary for defining the boundary between the first space and the second space.

15 28. The boundary detection device of claim 12, wherein the boundary between the first space and the second space is defined by a calculated curve connecting at least two predefined position coordinates.

20 29. The boundary detection device of claim 12, further including a transmitter operable to transmit an information signal including the actual position coordinates of the movable device in the first space.

30 30. The boundary detection device of claim 12, further including a transmitter operable to transmit a signal including medical parameters.

25 31. The boundary detection device of claim 12, further including a transmitter operable to transmit a signal including the speed of the device.

30 32. The boundary detection device of claim 12, wherein the receiver is operable to receive a polling signal; and further including a transmitter operable to transmit a positioning signal including the actual position coordinates in response to receiving the polling signal.

33. The boundary detection system of claim 20, wherein the transmitter is operable to transmit to the base station an information signal including the actual position coordinates of the movable device in the first space.

34. The boundary detection system of claim 20, wherein the boundary detection device is operable to transmit to the base station an information signal including medical parameters.

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35. The boundary detection system of claim 20, wherein the boundary detection device is operable to transmit to the base station an information signal including the speed of the device.

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36. The boundary detection system of claim 20,

(a) wherein the base station further includes a second transmitter operable to transmit a polling signal to the boundary detection device; and

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(b) wherein the first receiver is operable to receive the polling signal and the transmitter of the detection device is operable to transmit to the base station a positioning signal including the actual position coordinates in response to receiving the polling signal.

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37. The method of claim 22 wherein defining a boundary includes calculating a curve connecting at least two predefined position coordinates.

38. A boundary detection system, comprising:

(a) a boundary detection device, comprising:

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(i) a first receiver operable to receive a positioning signal including actual position coordinates of a movable device in a first space and a correction signal including errors in the actual position coordinates;

(ii) a memory module including a memory to store predefined position coordinates for defining boundaries of a second space;

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(iii) a first processor module connected to the first receiver and the memory module and operable to compare the actual position coordinates to the predefined position coordinates;

and

- (iv) a first transmitter connected to the first processor module and operable to transmit an information signal including the actual position coordinates;

5 (b) a base station, comprising:

- (i) a second receiver operable to receive the information signal from the first transmitter;
- (ii) a second processor module connected to the second receiver and operable to determine an error in the actual position coordinates of the information signal; and
- 10 (iii) a second transmitter connected to the second processor and operable to transmit the correction signal to the first receiver.

15 39. A system for detecting a movable boundary, comprising:

(a) a first movable device, comprising:

- (i) a first receiver operable to receive a positioning signal including position coordinates of the first movable device in a space; and
- 20 (ii) a transmitter connected to the first receiver and operable to transmit a boundary signal indicating the position coordinates of the first movable device;

(b) a second movable device, comprising:

- (i) a second receiver operable to receive the boundary signal of the first movable device and a positioning signal including position coordinates of the second movable device in the space;
- 25 (ii) a processor module connected to the second receiver and operable to compare the position coordinates of the first movable device to the second movable device; and
- 30 (iii) an indicator connected to the processor module and operable to indicate when the first movable device is a predetermined distance from the second movable device.

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5 40. The system of claim 39 wherein the indicator includes an alarm operable to produce a sound when the actual position coordinates are the predetermined distance from the boundary between the first space and the second space.

41. A method for defining position coordinates of a boundary in a boundary detection device, the method comprising:

- 10 (a) providing a boundary detection device, comprising:
- (i) a receiver operable to receive a positioning signal including actual position coordinates of the detection device in a first space; and
 - (ii) a memory module including a memory operable to store position coordinates of a boundary;
- 15 (b) moving the boundary detection device along a boundary of a second space;
- (c) receiving position coordinates as the boundary detection device moves along the boundary of the second space; and
- 20 (d) storing the position coordinates of the boundary of the second space in the memory.

42. A movable boundary detection device, comprising:
- 25 (a) a receiver operable to receive a positioning signal including actual position coordinates of a movable device in a first space;
- (b) a memory operable to store medical parameters; and
- (c) a transmitter connected to the receiver and memory, operable to transmit a signal including medical parameters and the actual position coordinates of the movable device to a base station.

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